



➔ *Back-up and secure data solution*

➔ *About our client*

- **British Petroleum** is one of the world's largest energy companies, providing its customers with fuel for transportation, energy for heat and light, retail services and petrochemicals products for everyday items. It includes a family of brands that are recognized and respected in markets worldwide such as BP, Castrol, Arco, Aral, Wild Bean
- BP started operating in Turkey under the name Steaua Romana in 1912. Since 1957 they have been operating as BP Petrolleri Anonim Sirketi (BP Petroleum Limited), as we're still known today.
- With about 750 employees in Turkey, BP controls around 600 service stations across Turkey and a 68% share in the ATAS Refinery.
- TOPEX and local mobile operator Turcom offer a common solution to meet BP needs

➔ *Initial situation*

- With over 600 service stations across Turkey, BP needs a powerful and capable system to transport and pick-up data from each location all over the country.
- Their requirements includes secure data transmission through a VPN connection, back-up capability for centers with an existent Internet infrastructure.
- Also the equipment must have been able to transmit data from all kind of locations, the majority having no fixed Internet connection available.
- HSDPA technology was the best solution based on coverage, cost and installation flexibility.



➔ *The solution*

- The solution implemented includes all service stations across Turkey in one Virtual Private Network over Turcom HSDPA network. Data transfer it's made through Bytton HSDPA, 3G wireless router, by sending packages between locations and headquarter on request or time shift. Data are still saved on local data base and send it on office request. Data transfer it's now made in both directions:

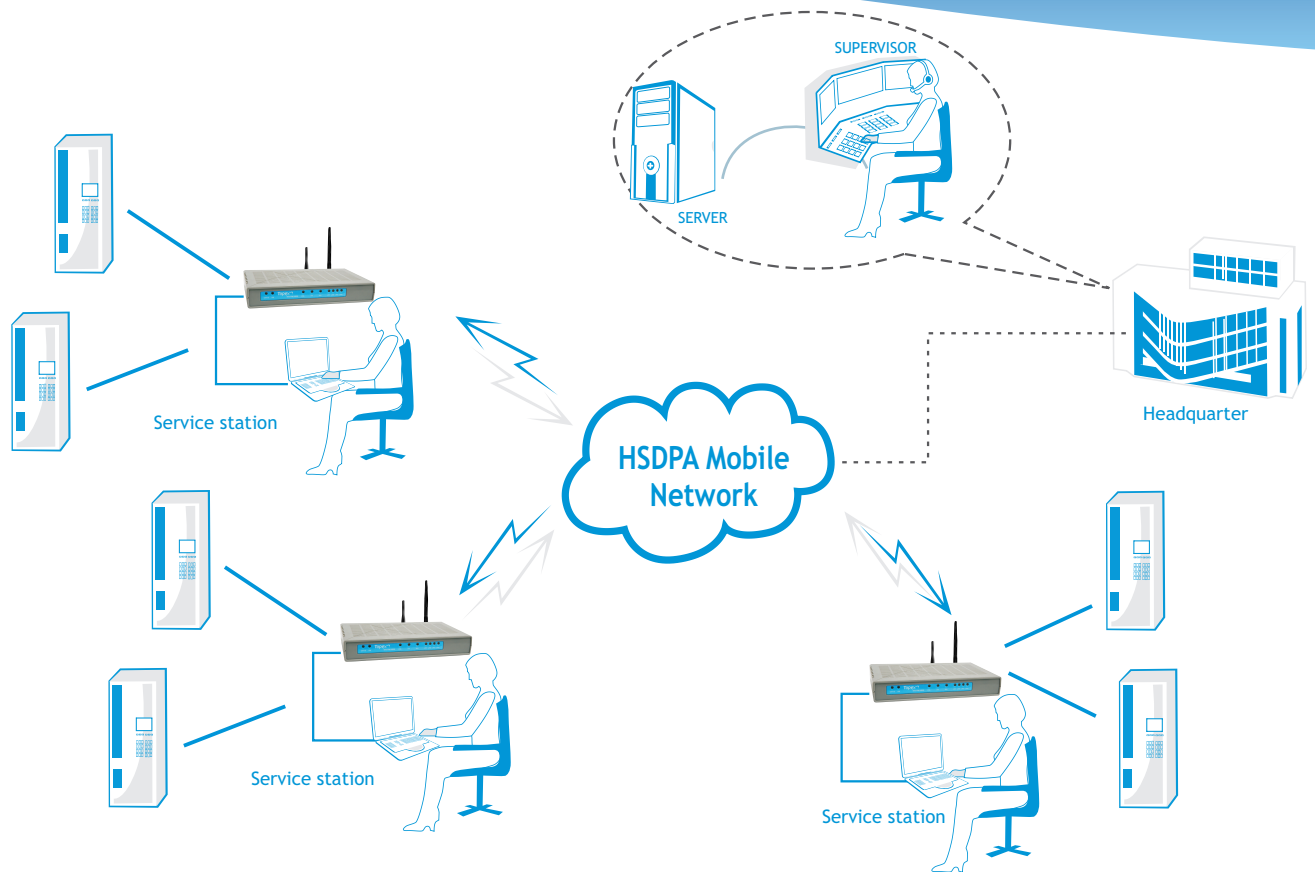
- Getting information from locations regarding technical and commercial activities.
- Sending from headquarter to all places or only selected ones - offer changes or messages prompted on screen.

➔ *Transfer network*

- Transfer network it's provided by carrier Mobile data operator through Bytton HSDPA by offering:
- network/services presence in all locations.
- better price offer then other similar company's on the market.
- installing period and SLA established.
- transfer data security.

➔ *Transfer data bandwidth:*

- HSDPA up to 3.6 Mbps download speed
- HSDPA up to 384 Kbps upload speed



➔ Technical specifications:

- Double Wireless Router family
 - WAN Wireless: GPRS, EDGE, UMTS-FDD, HSDPA, UMTS-TDD, CDMA 1xRTT, CDMA 1x EVDO.
 - LAN Wireless: WiFi.
- Regarding functionality, TOPEX family equipments are completely Plug-and-Play.
- Switch Ethernet (4+1 ports), WiFi 802.11bg access point, USB 2.0 (2 ports), serial (2 ports RS 232).
- WiFi Access Point, VPN Router, embedded firewall
- Switch with management - allows VLAN tagging and Layer 2 QoS - 802.1p and 802.1q
- SMS Gateway - can send and receive SMS messages from the web page
- DHCP Server, DNS, DDNS
- PPP, PPPoE connections
- Advanced routing capabilities
- 3G network parameters, IMSI, IMEI, signal level
- Routing protocols: RIP, OSPF, Unix based Quagga
- Port forwarding, Denial of Service, Stateful Packet Inspection, MAC address filtering, DMZ - Demilitarized Zone, VPN tunneling and pass-through for VPN
- Secured Web Access
- SHA, MD5, PAP, CHAP authentication
- IPSec, L2TP, GRE tunneling
- WEP, WPA encryption using DES, 3DES, AES, TKIP
- RADIUS protocol used for AAA (Authentication, Authorization and Accounting)
- Real time log verification
- NTP (Network Time Protocol) used for real time update for system local time